

A CONTRIBUTION TO THE FLORA OF KHATLING
GLACIER IN THE GARHWAL HIMALAYA
(DISTRICT - TEHRI), U.P. — 2¹

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[Continued from Vol. 84 (3): 598]

ASTERACEAE

Achillea millaefolium Linn. (Loc.-Guggul)

Erect pubescent herb with white flowers.
Tamakundo, 2700 m. Aug. 1985 (3084).

Adenocaulon bicolor Hook.

Erect herb with white flowers or pale yellow
heads. Banglani, 2700 m. Aug. 1984 (601).

Ainsliaea aptera DC.

Slender herb with light pink flowers. Jalkala,
2700 m. Aug. 1984 (1296).

A. latifolia (D. Don) Schulz.-Bip.

Tall erect tomentose herb with purplish-
white heads. Jalkala, 2700 m. March 1984
(1294).

Anaphalis adnata DC.

Herb with white flowers. Henuri, 2700 m.
Aug. 1984 (666).

A. busua (Buch.-Ham.) Hand.-Maz.

Herb with white flowers. Tonyaroo, 2750 m.
Aug. 1984 (607).

A. contorta Hook. f.

Herb with white flowers on alpine slopes.
Baro Sonaroo, 2800 m. Aug. 1984 (4876).

A. cuneifolia Hook. f.

Woolly or cottony herb with white flowers.
Tonyaroo, 2750 m. June 1984 (4865).

A. margaritacea Benth. et Hook. f. Sub. sp.
angustior Kitamura

Syn. *A. cinnamomea* Clarke

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Stout herb with white flowers. Gangi, 2500
m. Sept. 1985 (1297).

A. nepalensis (Spring) Hand.-Manz.

Syn. *A. nubigena* DC.

Woolly tufted herb with white flowers.
Bhelbagi, 3100 m. July 1984 (4875).

A. royleana DC.

Herb with white flowers. Kalayani, 2500 m.
Aug. 1984 (758).

A. triplinervis Clarke

Large tufted herb with white flowers.
Sonaroo, 2600 m. Aug. 1984 (613).

Artemisia sacrorum Ledeb. (Loc.-Chaamari)

Small aromatic shrub with yellow flowers.
Henuri, 2750 m. Aug. 1984 (4883).

Aster diplostephioides (DC.) Clarke

Herb with blue flowers. Deokhuri, 2700 m.
Aug. 1984 (4863).

A. molliusculus (DC.) Clarke

Pubescent, erect herb with purple flowers.
Gangi, 2500 m. June 1984 (4826).

A. peduncularis Wall.

Herb with bluish-white flowers. Kalayani,
2600 m. Sept. 1985 (4869).

Blumea lacinata Roxb.

Herb with yellow flowers. Reeh, 2100 m.
May 1984 (1081).

Cirsium arvense (Linn.) Scop.

Syn. *Cnicus arvensis* Hoffm.

Tomentose herb with purplish heads. Jalkala,
2700 m. July 1984 (1298).

C. verutum (D. Don) Spreng.

Syn. *Cnicus involucratu*s DC.

Prickly erect robust herb with purplish white

heads. Naumuthia, 2900 m. Aug. 1984 (2648).

Carpesium abrotanoides Linn.

Herb with yellow flowers in the ravines. Banglani, 2700 m. July 1984 (4888).

Dicrocephala integrifolia D. Don.

Pubescent hairy herb with globose heads. Outer flowers white inner yellow. Dhoperdhar, 1500 m. July 1984 (1299).

Erigeron alpinum Linn.

Erect herb with white pinkish flowers on rocky crevices. Bhelbagi, 3100 m. July 1984 (5705).

E. multiradiatus (DC.) Benth. et Hook. f.

Erect hairy herb with purple flowers. Deokhuri, 2700 m. Aug. 1984 (5728).

Galinsoga parviflora Cav.

Roughly hairy herb with yellowish white heads. Gangi, 2500 m. Sept. 1985 (1108).

Gerbera pusilla (Wall. ex DC.) Goel et

Bhattacharyya

Scapigerous small herb with white flowers on shady places. Sonari, 2600 m. Aug. 1984 (782).

Gynura cusimbua (D. Don) S. Moore

Syn. *G. angulosa* DC.

Large glabrous herb with orange yellow corymbose heads on rocky crevices. Reeh, 2000 m. Aug. 1984 (4866).

Helenium grandiflorum (Willd.) O. Kuntz.

Herb with light yellow flowers. Gangi, 2500 m. July 1984 (4864).

Inula cuspidata (DC.) Clarke

Glabrous shrub with purple flowers. Kharsouli, 2800 m. Sep. 1985 (4872).

I. obtusifolia Kerner

Herb with yellow flowers. Kharsouli, 2800 m. Sept. 1985 (4881).

Jurinea macrocephala (DC.) Clarke

(Loc.-Guggul)

Stemless herb with sessile purplish heads. Naumuthia, 2700 m. Aug. 1984 (5609).

Lactuca brunoniana (Wall. ex DC.) Clarke

Syn. *Prenanthus brunoniana* Wall. ex DC.

Herb with purple or white heads. Pachari, 2800 m. Aug. 1984 (4884).

L. hastata DC.

Herb with pink-violet flowers. Kharsouli, 2800 m. Sept. 1985 (4880).

L. macrorhiza (Royle) Hook. f.

Weak prostrate herb with purple drooping heads. Pachari, 2800 m. Aug. 1984 (4886).

Leontopodium himalayanum DC.

Syn. *L. alpinum* Hook.

Woolly herb with white flowers. Bhumka, 3200 m. July 1984 (4879).

Myriactis nepalensis Less.

Erect herb with white yellowish heads. Gangi, 2500 m. Sept. 1985 (916).

M. wallichii Less.

Erect roughly hairy herb with white yellowish heads. Gangi, 2500 m. Aug. 1984 (917).

Saussurea albescens Hook. f. et Thoms. ex Clarke

Large cottony herb with purple heads. Birodh, 2700 m. Sept. 1985 (4867).

S. fastuosa (Decne.) Sch.-Bip.

Large herb with purple brown heads. Birodh, 2700 m. Aug. 1984 (5729).

S. graminifolia Wall. ex Hook. f.

Herb with white silky dentely heads. Tonyaroo, 2750 m. Aug. 1984 (5730).

S. hypoleuca Spreng.

Erect herb with dark purple solitary heads. Pachari, 2800 m. Aug. 1984 (1295).

S. leontodontoides (DC.) Sch.-Bip.

Syn. *S. kunthiana* Clarke

Dwarf herbs with deep purple heads. Tonyaroo, 2750 m. Aug. 1984 (5730).

S. obvallata (DC.) Sch.-Bip. (Loc.-Brahmkaunl)

Herb on rocks. Heads enclosed in the membranous uppermost leaves, purplish green. Taamakundo, Chauki, 3800 m. Aug. 1984 (5214).

S. simpsoniana (Field & Gardn.) Lipsch. (Loc.-Phenkamala)

Small woolly herb with woolly heads. Chauki, 3500 m. Aug. 1984 (971).

S. taraxacifolia Wall. ex DC.

Small cottony herb with purple solitary heads. Henuri, 2750 m. Aug. 1984 (4568).

Solidago virga-aurea Linn.

Erect pubescent herb with yellow heads. Panyara, 2700 m. Aug. 1984 (4878).

Senecio chrysanthemoides DC.

Large herb with yellow flowers. Kalayani, 2600 m. July 1984 (4878).

S. chenopodifolius DC.

Herb with yellow flowers. Chota Sonyaroo, 2750 m. Aug. 1984 (4885).

S. rufinervis DC.

Tall herb with yellow corymbose heads. Lamboo sonaroo, 2700 m. Aug. 1984 (4871).

Tanacetum longifolium Wall. ex DC.

Aromatic hairy herb with yellowish heads. Bhelbagi, 3100 m. Sept. 1985 (1088).

Taraxacum officinale Weber.

Herb with yellow flowers. Kalayani 2600 m. May 1984 (4546).

Tragopogon gracilis D. Don (Loc.-Gwalhya, Daifa)

Tufted herb with yellow flowers. Bhelbagi, 3100 m. May 1984 (4545).

CAMPANULACEAE

Campanula argyrottrica Wall. ex DC.

Procumbent hairy herb with blue flowers. Bhelbagi, 3100 m. May 1984 (3088).

Codonopsis viridis (DC.) Roxb.

Twining herb with large bell shaped yellow flowers. Tamakundo, 3400 m. Aug. 1984 (3091).

Cynanthus lobatus Wall. ex Benth.

Pilose herb with blue, violet or rarely white flowers. Sonari, 2650 m. Aug. 1985 (640).

ERICACEAE

Cassiope fastigiata (Wall.) D. Don

Erect glabrous herb with white flowers forming rigid dense tufts on alpine slopes. Tamakundo, 3400 m. June 1984 (4844).

Gaultheria nummularioides Don

Prostrate hairy herb with pinkish white flowers and blue black fruits. Bhelbagi, 3100 m. July 1984 (4528).

G. tricophylla Royle

Prostrate herb with white flowers and sky blue fruits. Bhelbagi, 3100 m. July 1984 (4529).

Lyonia ovalifolia (Wall.) Drude. (Loc.-Anyar)

Tree with white flowers in racemes upto 15 m long. Gangi, 2500 m. May 1984 (1110).

Rhododendron arboreum Smith (Loc.-Burans)

Tree with red flowers. Kalayani, 2600 m. May 1984 (4526).

R. campanulatum D. Don

Small tree with pale pinkish or white or bluish white flowers. Rimchura, 3000 m. May 1984 (5504).

R. hypenanthum Balf. f.

Syn. *R. anthopogon* auct. non. D. Don (Loc.-Bhotiya chai)

Small shrub with yellow or yellowish white flowers. Bhumka, 3200 m. June 1984 (4527).

R. lepidotum Wall. ex D. Don

Small aromatic shrub with pink or purplish flowers. Bhumka, 3200 m. July 1984 (4595).

PRIMULACEAE

Androsace lanuginosa Wall.

Pubescent, weak and prostrate herb with purple or pink with yellow centre flowers. Reeh, 2100 m. April 1984 (1058).

A. rotundifolia Hardw.

Woolly herb with pink flowers. Gangi, 2500 m. April 1984 (1015).

A. sarmentosa Wall.

Prostrate hairy herb with purple flowers on

rocky places. Bhumka, 3200 m. May 1984 (1232).

Lysimachia alternifolia Wall.

Erect slender herb with yellow flowers. Naumuthia, 2900 m. June 1984 (5702).

L. prolifera Klatt.

Prostrate herb with white to pink flowers on grassy slopes. Gangi, 2500 m. June 1984 (5701).

L. pyramidalis Wall. ex Roxb.

Glabrous herb with pale purple flowers. Bhelbagi, 3100 m. July 1984 (792).

Primula denticulata Smith

Erect herb with purple flowers. Kharsoli, 2800 m. April 1984 (1225).

P. floribunda Wall.

Soft herb with yellow flowers on rocks. Naumuthia, 2900 m. June 1984 (3049).

P. sessilis Royle ex Craib

Small tufted herb with purple or pink flowers near dripping water on mossy rocks. Bhelbagi, 3100 m. May 1984 (3100).

SYMPLOCACEAE

Symplocos crataegoides Buch.-Ham. ex D. Don (Loc.-Lodh)

Tree with green yellow flowers. Reeh, 2100 m. June 1984 (5615).

S. ramosissima Wall. ex G. Don

Small tree with green fruits. Gangi, 2500 m. July 1984 (4899).

ASCLEPIADACEAE

Cynanchum canescens (Wall.) K. Schum.

Syn. *C. glaucum* Wall.

Large erect herb with yellow flowers. Kalayani, 2600 m. May 1984 (770).

C. vincetoxicum (Linn.) Pers.

Large erect herb with greenish yellow flowers. Sonari, 2600 m. June 1984 (1067).

GENTIANACEAE

Gentiana argentia Royle ex D. Don

Small herb with blue flowers. Bajloo, 3500 m. May 1984 (1021).

G. capitata Buch.-Ham.

Herb with bluish white flowers. Gangi, 2500 m. April 1984 (993).

G. carinata Griseb.

Small herb with violet flowers. Khatling, 3650 m. May 1984 (2730).

G. pedicellata (D. Don) Wall. ex Griseb.

Erect herb with white or blue flowers. Dhoperdhar, 1000 m. May 1984 (1063).

G. stipitata Edgew.

Small herb with blue purple backed flowers. Bajloo, 3500 m. Sept. 1985 (4671, 1677).

Gentianella tenella (Rottb.) H. Smith

Syn. *G. tenella* Fries.

Small herb with blue flowers. Bhelbagi, 3100 m. Oct. 1985 (1090).

Halenia elliptica D. Don

Erect herb with bluish flowers. Gangi, 2500 m. Oct. 1985 (786).

Swertia ciliata (G. Don) B. L. Burt.

Erect herb with purplish white flowers on grassy slopes. Birodh, 2700 m. Aug. 1984 (5324).

S. cordata Wall. ex Clarke

Herb with yellow flowers. Kalayani, 2650 m. Aug. 1984 (813).

S. cuneata Wall. ex D. Don

Herb with blue flowers. Khatling, 3600 m. July 1984 (4896).

S. tetragona (Edgew.) Clarke

Erect herb with white pinkish streaks on flowers. Kalayani, 2600 m. Sept. 1985 (4897).

SOLANACEAE

Physalis minima Linn.

Pubescent herb with yellow flowers. Reeh, 2100 m. July 1984 (4584).

SCROPHULARIACEAE

Euphrasia officinalis Linn.

Erect herb with white or pinkish-white flowers. Khatling, 3600 m. Aug. 1984 (3099).

E. platyphylla D. Don

Herb with yellowish-white flowers. Naumuthia, 2800 m. Aug. 1984 (661).

Hemiphragma heterophyllum Wall.

Rambling herb with pink flowers and red shining fruits. Gangi, 2500 m. July 1984 (1039).

Mazus japonicus (Thunb.) Kuntze

Syn. *M. rugosus* Lour.

Tufted glabrous herb with white flowers. Reeh, 2100 m. May 1984 (1112).

M. surculosus D. Don

Tufted herb with pale blue or pinkish white yellow flowers. Tonyaroo, 2750 m. May 1984 (690).

Pedicularis bifida (Buch.-Ham.) Pennell.

Herb with pale rose flowers. Rimchura, 3000 m. Sept. 1985 (3047).

P. hoffmeisteri Klotzsch.

Herb with yellow flowers. Tamakundo, 3400 m. Sept. 1985 (5740).

P. porrecta Wall. ex Benth.

Erect herb with pink flowers. Khatling, 3600 m. July 1984 (711).

Picrorhiza kurrooa Benth. (Loc. Karwi, Kutki)

Spreading herb with light blue flowers. Bhumka, 3200 m. June 1984 (4833).

Scrophularia calycina Benth.

Erect herb with white flowers. Bhelbagi, 3100 m. July 1984 (4898).

Sopubia trifida Ham.

Pubescent herb with yellow flowers. Gangi, 2500 m. Aug. 1984 (1059).

Verbascum chinense (Linn.) Santapau

Erect herb with yellow flowers. Sonari, 2600 m. May 1984 (3048).

Veronica agrestis Linn.

Pubescent herb with blue or white flowers. Gangi, 2500 m. May 1984 (1019).

Wulfenia amherstiana Benth.

Glabrous herb with purple flowers in moist places Panyara, 2700 m. May 1984 (757).

OROBANCHACEAE

Orobanche epithimum DC.

Parasite herb with purple blue flowers. Kalayani, 2600 m. Sept. 1985 (3069).

GESNERIACEAE

Chirita bifolia D. Don

Small herb with purple-blue tinged with yellow flowers in moist places. Reeh, 2100 m. Sept. 1985 (634).

BEGONIACEAE

Begonia amoena Wall.

Glabrous herb with pink flowers on damp rocks. Reeh, 2100 m. Aug. 1984 (622).

ACANTHACEAE

Barleria cristata Linn.

Erect hairy herb with blue flowers. Reeh, 2100 m. July 1984 (3943).

Strobilanthes atropurpureus Nees

Pubescent herb with violet flowers. Deokhuri, 2700 m. Sept. 1985 (742).

LAMIACEAE

Clinopodium umbrosum (M. Bieb.) G. Koch.

Herb with pink flowers. Gangi, 2500 m. July 1984 (1075).

Craniotome versicolor Reichb.

Erect herb with green flowers. Bhelbagi, 3100 m. May 1984 (3076).

Elsholtzia fruticosa (D. Don) Rehder.

Pubescent shrub with white or pale yellow flowers. Tonyaroo, 2750 m. July 1984 (3001).

E. strobilifera Benth.

Small herb with purple flowers. Henuri, 2750 m. Aug. 1984 (3006).

Isodon striatus Benth.

Syn. *Plectranthus striatus* Benth.

Erect hairy herb with white flowers. Jalkala, 2700 m. Aug. 1985 (3005).

Lamium album Linn.

Hairy decumbent aromatic herb with white flowers. Kharsoli, 2800 m. May 1984 (3004).

Micromeria biflora Benth.

Herb with pink flowers. Sonari, 2600 m. Sept. 1985 (947).

Nepeta ciliaris Benth.

Herb with purple flowers. Gangi, 2500 m. Aug. 1984 (745).

N. discolor Royle ex Benth.

Herb with sky blue flowers. Gangi, 2600 m. June 1984 (4900).

N. govaniana Benth.

Pubescent herb with yellow flowers. Gangi, 2600 m. Sept. 1985 (1055, 1061).

Origanum vulgare Linn. (Loc.-Jogpua)

Aromatic erect herb with pink flowers. Kharsoli, 2800 m. Sept. 1985 (4591).

Phlomis bracteosa Royle ex Benth.

Erect hairy herb with dull blue purple flowers. Gangi, 2500 m. Sept. 1985 (3002).

Plectranthus mollis (Ait.) Spreng.

Large erect aromatic herb with bluish flowers. Saura, 2800 m. Aug. 1985 (3074).

Salvia hians Royle ex Benth.

Robust hairy herb with purple flowers. Henuri, 2750 m. Sept. 1985 (729).

S. nubicola Wall. ex Sweet

Syn. *S. glutinosa* Linn.

Aromatic hairy herb with yellow flowers. Pachari, 2800 m. Sept. 1985 (3007).

Scutellaria scandens D. Don (Loc.-Kappu)

Herb with greenish flowers. Tonyaroo, 2700 m. April 1984 (734).

Stachys melissaefolia Benth.

Herb with lilac flowers. Bhelbagi, 3100 m. Sept. 1985 (5237, 5261).

S. sericea Wall.

Herb with rose-pale pink flowers. Jalkala, 2700 m. Aug. 1985 (3072).

PLANTAGINACEAE

Plantago himalaica Pliger

Syn. *P. brachyphylla* Edgew.

Depressed purplish green herb on meadows. Bhelbagi, 3100 m. Aug. 1984 (3077).

P. major Linn.

Herb with spikes upto 0.5 m in length. Dhoperdhar, 1500 m. June 1984 (806).

CHENOPODIAEAE

Acroglochin persicarioides (Poir) Moq.

Syn. *A. chenopodioides* Schrad.

Erect glabrous herb with spiny inflorescens. Bhelbagi, 3100 m. Aug. 1985 (3011).

Chenopodium ambrosioides Linn.

Tall aromatic herb with yellowish-white flowers. Reeh, 2100 m. July 1984 (1097).

C. botrys Linn.

Strongly aromatic herb. Sonari, 2600 m. Aug. 1985 (3010).

C. foliosum (Moench.) Asch.

Syn. *C. blitum* Hook. f.

Glabrous herb with fleshy red perianth. Rimchura, 2950 m. July 1984 (4624).

C. hybridum Linn.

Glabrous erect herb. Reeh, 2100 m. Aug. 1985 (3009).

C. murale Linn.

Erect herb on drier places. Reeh, 2100 m. Sept. 1985 (4623).

AMARANTHACEAE

Cyathula tomentosa (Roth.) Moq.

Shrub with pale yellow white flowers. Gangi, 2500 m. Sept. 1985 (4619).

Deeringia amaranthoides (Lam.) Merrill.

Syn. *D. celosiodes* Br.

Undershrub with pale-yellow green flowers. Gangi, 2500 m. July 1984 (3008).

PHYTOLACCACEAE

Phytolacca acinosa Roxb. (Loc.-Jagroo)

Erect glabrous succulent herb with green flowers. Kalayani, 2650 m. July 1984 (4635).

POLYGONACEAE

Fagopyrum dibotrys (D. Don) Hara

Syn. *F. cymosum* (Trev.) Meissn.

Pubescent erect branching herb with white flowers. Gangi, 2500 m. July 1984. (4554).

F. esculentum (Linn.) Moench. (Loc.-Kanjolya)

Syn. *Polygonum fagopyrum* Linn.

Glabrous herb with pinkish-white flowers. Gangi, 2500 m. May 1984 (4552).

Koenigia delicatula (Meissn.) Hara

Syn. *Polygonum delicatulum* Meissn.

Delicate herb with minute axillary greenish flowers on margins of streams. Tamakundo, 3400 m. Aug. 1984 (5719).

K. nepalensis D. Don (Loc.-Tufrya)

Syn. *Polygonum filicaule* Wall. ex Meissn.

Erect herb with white flowers on margins of streams. Tamakundo, 3400 m. Aug. 1984 (5718).

Oxyria digyna (Linn.) Hill (Loc.-Kailashi almora)

Glabrous fleshy herb with green-pink flowers. Pachari, 2800 m. Aug. 1984 (692).

Persicaria capitata (Buch.-Ham.) H. Gross.

Syn. *Polygonum capitatum* Buch.-Ham.

Trailing herb with pink heads. Gangi, 2500 m. June 1984 (4553).

Polygonum affine D. Don.

Glabrous tufted herb with bright pink flowers

and forming mats over rocks. Rimchura, 2900 m. Sept. 1985 (5720).

P. alatum Ham.

Prostrate herb with white-purple flowers. Tonyarco, 2750 m. Aug. 1984 (3013).

P. alpinum All.

Tall erect herb with white flowers. Rimchura, 2900 m. Aug. 1984 (704).

P. amplexicaule D. Don

Large glabrous herb with red flowers. Kharoli, 2850 m. May 1984 (5723).

P. donii Meissn.

Procumbent herb with pink flowers on grassy slopes. Reeh, 1800 m. Aug. 1984 (5721).

P. macrophyllum D. Don (Loc.-Kukhuri)

Syn. *P. sphaerostachyum* Meissn.

Herb with drooping red spikes. Kharsoli, 2850 m. Aug. 1984 (706).

P. nepalensis Meissn.

Glabrous herb with terminal greenish and pink heads. Reeh, 1500 m. Aug. 1984 (4547).

P. recumbens Royle ex Bab.

Prostrate herb with white or pink flowers. Pachari, 2850 m. July 1984 (3012).

P. rumicifolium Royle ex Bab. (Loc.Bakranda)

Erect herb with dull pink flowers. Tamakundo, 3200 m. Sept. 1985 (4550).

P. sinuatum Royle ex Meissn.

Creeping herb with pink flowers. Naumuthia, 2900 m. Aug. 1984 (710).

P. vaccinifolium Wall. ex Meissn. (Loc.-Inni)

Trailing herb with light pink flowers on mossy boulders. Rimchura, 3000 m. Aug. 1984 (5722).

Rheum emodi Wall. ex Meissn. (Loc.-Dolu, Archu)

Tall erect herb with white flowers. Rimchura, 3000 m. June 1984 (4558).

Rumex acetosa Linn.

Erect herb with purplish green or pink flowers on moist open meadows. Sonari, 2600 m. Aug. 1984 (4596).

R. nepalensis Spreng. (Loc.-Kholya)
Robust herb with pink flowers. Bhumka,
3200 m. June 1984 (4555).

SAURURACEAE

Houttuynia cordata Thunb. (Loc.-Semdalu)
Aromatic herb with large white flowers on
marshy and moist localities. Jalkala, 2700 m.
June 1984 (4570).

PIPERACEAE

Peperomia reflexa (Linn. f.) A. Dietr.
Epiphytic herb on *Quercus floribunda*
trunks. Sonari, 2600 m. Sept. 1985 (3098).

LAURACEAE

Cinnamomum tamala Nees (Loc.-Guradaroo)
Tree with creamy flowers. Gangi, 2500 m.
May 1984 (4573).

Dodecadenia grandiflora Nees
Large evergreen tree in Oak-Rhododendron
forest with pale yellow flowers. Gangi, 2500 m.
May 1984 (3016).

Neolitsea umbrosa (Nees) Gamble
(Loc.-Sailal, Belaru)
Syn. *Litsea umbrosa* Nees
Evergreen tree with pale yellow and small
red fruits. Gangi, 2500 m. May 1984 (4593).

THYMELAEACEAE

Daphne papyracea Wall. ex Steud.
Syn. *D. cannabina* Wall.
Shrub with pale white flowers and orange
fruits. Panyara, 2750 m. May 1984 (658).

ELAEAGNACEAE

Elaeagnus parvifolia Wall. ex Royle
(Loc.-Geiwaii)
Syn. *E. umbellata* Thunb.
Shrub with pale yellowish flowers and red

or orange fruits near streams. Deokhuri, 2700
m. Oct. 1985 (4508).

Hippophae rhamnoides Serv. sub spp. **salici-
folia** (D. Don) Serv. (Loc.-Amali)

H. salicifolia D. Don

Shrub with yellow fruits common on banks
of ravine streams. Kalayani, 2650 m. Sept.
1985 (4522).

LORANTHACEAE

Taxillus vestitus (Wall.) Danser.
(Loc.-Bandoo)

Syn. *Loranthus vestitus* Wall.

Tomentose shrub with parasite on *Quercus*
with brown flowers. Reeh, 2100 m. Sept. 1985
(4581).

Viscum nepalensis Spreng.
Parasitic shrub. Gangi, 2500 m. June 1984
(1038).

SANTALACEAE

Osyris wightiana Wall. ex Wight (Loc.
Bakrolya)
Shrub with yellow green and red fruits.
Reeh, 2100 m. Aug. 1984 (4572).

EUPHORBIACEAE

Acalypha ciliata Forsk.
Herb with green flowers. Reeh, 2100 m.
Aug. 1984 (2138).

Euphorbia pilosa Linn. (Loc.-Mahavir)
Erect glabrous herb with yellow flowers.
Birodh. 2700 m. June 1984 (662).

E. stracheyi Boiss. (Loc.-Dudhiya Bish)
Prostrate herb with yellow green flowers.
Kharsoli, 2500 m. June 1984 (3019).

BUXACEAE

Buxus wallichiana Baill. (Loc.-Papri)

Syn. *B. sempervirens* Linn.

Small tree with greenish-yellow flowers and horned fruits. Gangi, 2500 m. May 1984 (4722).

Sarcococca saligna (Don) Muel.-Arg.

Syn. *S. pruniformis* Lindl.

Glabrous shrub with green flowers. Pachari, 2800 m. May 1984 (731, 1029).

MORACEAE

Ficus sarmentosa Ham. ex Smith

Evergreen creeping shrub with green fruits. Reeh, 2100 m. April 1984 (3020).

F. scandens Roxb. (Loc.-Beduli)

Creeping shrub with black fruits on moist rocky places. Gangi, 2500 m. Oct. 1985 (4377).

Morus serrata Roxb. (Loc.-Keemu)

Tree with dark purple sweet fruits. Ghutoo, 1500 m. June 1984 (4576).

URTICACEAE

Boehmeria platyphylla Don

Large herb with white flowers. Reeh, 2100 m. July 1984 (646, 659).

B. scabrella Gard. (Loc.-Khagsa)

Shrub with pale yellowish flowers. Common along canals and streams. Gangi, 2500 m. Aug. 1984 (5733).

Debregeasia salicifolia (D. Don) Rendle (Loc.-Syanru)

Shrub with orange yellow fruits. Ghutoo, 1500 m. May 1984 (4149).

Elastostemma surculosum Wight.

Erect tufted herb with greenish flowers on damp rocky slopes. Pachari, 2800 m. Aug. 1984 (777).

Gonostegia hirta Miq.

Syn. *Pouzolzia hirta* Haussk.

Decumbent herb with creamy flowers. Reeh,

2100 m. July 1984 (3021, 698).

Lecanthus wallichii Wedd. (Loc.-Chaul)

Herb in moist places near water margins. Jalkala, 2700 m. Nov. 1984 (4664).

Pouzolzia zeylanica (Linn.) Benn.

Small herb with pale green flowers. Ghutoo, 1500 m. July 1984 (697).

JUGLANDACEAE

Juglans regia Linn. (Loc.-Akhori)

Tree with fragrant greenish male catkins. Gangi, 2500 m. June 1984 (4857).

MYRICACEAE

Myrica esculenta Hamilt. ex Don (Loc.-Kaphal)

Small tree with red fruits. Gangi, 2500 m. May 1984 (4729).

BETULACEAE

Alnus nepalensis Don (Loc.-Ust)

Deciduous tree with yellowish green catkins. Gangi, 2500 m. Sept. 1985 (4706).

Corylus jacquemontii Decne. (Loc.-Kabasi)

Syn. *C. colurna* Linn.

Small deciduous tree with large nuts sheathed by much enlarged bracteole. Deokhuri, 2700 m. June 1984 (4536).

Betula utilis D. Don (Loc.-Bhoj)

Tree with greenish catkins and exfoliating papery bark. Rimchura, 2950 m. June 1984 (4709).

FAGACEAE

Quercus leucotrichophora A. Camus ex Bahadur (Loc.-Banj)

Tree with pale yellowish catkins. Reeh, 2100 m. Sept. 1985 (4856).

Q. glauca Thunb. (Loc.-Phanat)

Tree with greenish catkins. Gangi, 2500 m. Sept. 1985 (5616).

Q. himalayana Bahadur (Loc.-Moru, Tilonj)
Syn. *Q. dilatata* Lindl.

Tree with greenish catkins. Kharsoli, 2800 m. Aug. 1984 (5617).

Q. semecarpifolia Smith (Loc.-Kharsu)

Tree with greenish blue catkins. Kharsoli, 2800 m. June 1984 (1084).

SALICACEAE

Salix daphnoides Villars.

Tree with female catkins. Rimchura, 3000 m. June 1984 (5726).

S. elegans Wall. ex Anders.

Syn. *S. denticulata* Anders.

Small tree with 4-6 cm long catkins. Pachari, 2800 m. May 1984 (5714).

S. fruticulosa Anders.

Shrub with hairy catkins about 0.8-2.2 cm long. Kharsoli, 2800 m. June 1984 (3725).

S. furcata Anders.

Small shrub with red flowers. Stamens exerted, Chauki, Khatking, Dandakharak, 3800 m. May 1984 (5724).

S. wallichiana Anders. (Loc.-Gadhbhains)

Small tree. Catkins 7-10 cm long appearing before leaves. Kalayani, 2600 m. May 1984 (5733).

MONOCOTYLEDONS

ORCHIDACEAE

Cephalanthera ensifolia Rich.

Glabrous herb with white flowers. Birodh, 2700 m. June 1984 (764).

Cypripedium cordigerum D. Don

Glabrous herb with green flowers. Birodh, 2700 m. June 1984 (769).

Epipactis latifolia (Linn.) All.

Glabrous herb with purple flowers. Rimchura, 2800 m. June 1984 (3096).

Eria convallarioides Lindl.

Epiphytic on spp. of *Litsea*, *Quercus*. Ghutoo, 1500 m. Sept. 1985 (778).

Goodyera repens (Linn.) R. Br.

Glabrous herb with white flowers. Naumuthia, 2900 m. Aug. 1984 (966, 3093).

Habenaria ensifolia Lindl.

Glabrous herb with white flowers. Henuri, 2750 m. Aug. 1984 (670).

H. intermedia D. Don

Glabrous herb with greenish white flowers. Tamakundo, 3400 m. Aug. 1984 (671).

H. latilabris (Lindl.) Hook. f.

Syn. *Plantanthera latilabris* Lindl.

Glabrous herb with white blue flowers. Reeh, 2100 m. July 1984 (3097).

H. plantaginea Lindl.

Glabrous herb with white blue flowers. Khatling, 3500 m. June 1984 (3098).

Herminium angustifolium Benth.

Glabrous herb with green flowers. Bhumka, 3200 m. Aug. 1984 (675).

Malaxis cylindrostachya (Reich.) O. Ktze.

Syn. *Microstylis muscifera* (Lindl.) Ridle.

Fleshy herb with greenish-yellow flowers. Gangi, 2500 m. Aug. 1984 (3098).

Neottia listeroides Lindl.

Glabrous leafless herb with yellowish-green flowers. Kalayani, 2600 m. Aug. 1984 (1020).

Oberonia pachyrachis Reichb. f.

Succulent leaved herb on tree trunks. Spikes with cylindric fleshy rachis, minute flowers depressed in it. Kharsoli, 2800 m. Sept. 1985 (3095).

Orchis latifolia Linn. (Loc.-Hatthajari)

Erect herb with dull purple flowers and palmate tubers. Bhelbagi, 3100 m. Aug. 1984 (4848).

Satyrium nepalense D. Don

Herb with purple flowers on rocks with *Sedum* spp. Gangi, 2500 m. Sept. 1985 (3092).

Spiranthes sinensis (Pers.) Ames.
Herb with pink or red flowers. Gangi, 2500 m. Aug. 1984 (968, 3059).

Malus, Prinsepia. Kalayani, 2650 m. Oct. 1985 (4554).

ZINGIBERACEAE (SCITAMINACEAE)

Cautleya gracilis (Smith) Pandey
Syn. *C. lutea* Royle
Herb with yellow flowers. Gangi, 2500 m. Aug. 1984 (624).

Roscoea alpina Royle
Small herb with lilac to purple flowers on grassy slopes and in rocky crevices. Kalayani, 2600 m. June 1984 (5709).

HAEMODORACEAE

Mondo intermedium (D. Don) Bailey
Syn. *Ophiopogon intermedius* D. Don
Glabrous herb with white drooping flowers. Gangi, 2500 m. July 1984 (1221).

IRIDACEAE

Iris kumaonensis Wall. ex D. Don
Glabrous herb with blue flowers on grassy slopes and meadows. Bhumka, 3200 m. June 1984 (5708).

DIOSCOREACEAE

Dioscorea belophylla Voight (Loc.-Tairu)
Syn. *D. glabra* Roxb.
Slender herbaceous climber with greenish flowers. Reeh, 2100 m. Aug. 1984 (4535).
D. bulbifera Linn. (Loc.-Genthi)
Glabrous climber with brownish white flowers. Reeh, 2100 m. Aug. 1984 (4531).
D. deltoidea Wall. ex Kunth.
Herbaceous twiner on *Berberis*, *Pyrus* spp. with greenish flowers. Gangi, 2500 m. Sept. 1985 (4532).
D. melanophyma Prain ex Burkill (Loc.-Mag, Maghahi)
Twining herb around spp. of *Berberis*,

LILIACEAE

Disporum cantoniense (Lour.) Merill.
Syn. *Fritillaria cantoniensis* Lour.
Glabrous herb with white flowers. Birodh, 2700 m. May 1984 (3029).

Cardiocrinum giganteum (Wall.) Mukino
Syn. *Lilium giganteum* Wall.
Large herb with white flowers, tube dark purple inside. Rimchura, 2900 m. June 1984 (5613).

Fritillaria roylei Hook.
Bulbous herb with bell-shaped white flowers. Birodh, 2750 m. May 1984 (2744).

Gagea lutea (Linn.) Ker.-Gwal.
Herb with yellow flowers. Jalkala, 2700 m. April 1984 (5419).

Iphigenia indica Kunth
Bulbous herb with purple flowers. Ghutoo, 1500 m. Aug. 1984 (3024).

Lilium polyphyllum D. Don ex Royle
Herb with greenish-white flowers with purple dots inside. July 1984 (3028).

Llyodia serotina Reichb.
Herb with bell shaped white flowers in crevices of rocks. Saura, 3000 m. May 1984 (3030).

Paris polyphylla Smith
Rhizomatous herb with greenish flowers near stream along with *Sarcococca* spp. Kalayani, 2600 m. June 1984 (5711).

Polygonatum cirrhifolium (Wall.) Royle
Rhizomatous herb with white, tinged with green or purple flowers. Deokhuri, 2700 m. May 1984 (3025).

P. verticillatum All.
Rhizomatous herb with yellowish white tinged with green flowers. Deokhuri, 2700 m. May 1984 (4539).

Smilacina purpurea Wall.

Herb with purplish flowers. Henuri, 2700 m. Aug. 1984 (810).

Trillium govanianum (D. Don) Kunth

Tuberous herb with solitary purple flowers. Tamakundo, 3100 m. Aug. 1984 (5710).

AMARYLLIDACEAE

Allium humile Kunth (Loc.-Laadoo, Pangri)

Syn. *A. govanianum* Wall. ex Baker

Small herb with white flowers on grassy slopes. Bhumka, 3200 m. May 1984 (4530).

A. wallichii Kunth (Loc.-Gobka)

Large herb with dark purple flowers. Rimchura, 2600 m. Aug. 1984 (4536).

SMILACACEAE

Smilax aspera Linn.

Prickly climber with white flowers. Gangi, 2500 m. Sept. 1985 (3027).

S. glaucophylla Klotzsch

Syn. *S. parvifolia* Wall.

Climber with white flowers. Gangi, 2500 m. May 1984 (3026).

COMMELINACEAE

Commelina paludosa Blume

Syn. *C. obliqua* Buch.-Ham.

Herb with large sky blue flowers. Birodh, 2700 m. Aug. 1984 (4647).

Murdannia divergens (Clarke) Bruckn.

Herb with red blue flowers on grassy slopes. Gangi, 2500 m. Aug. 1984 (3031).

JUNCACEAE

Juncus elegans Royle ex D. Don

Syn. *J. concinus* D. Don

Herb with white spikes near water margins. Bhelbagi, 3100 m. Aug. 1984 (679).

Luzula multiflora (Retz.) Lej.

Herb with reddish-brown spikes. Kharsoli, 2800 m. May 1984 (1214).

ARACEAE

Arisaema jacquemontii Blume

Herb with green spathe white striped on rocky places. Pachari, 2500 m. June 1984 (5707).

A. wallichianum Hook. f. (Loc.-Meen)

Herb with dark purple white striped spaths. Pachari, 2850 m. June 1984 (4852).

Gonatanthus pumilus (Don) Engl. ex Krause

Bulbous herb with spathe on moist slopes. Gangi, 2500 m. June 1984 (4565).

Typhonium diversifolium Wall. ex Schott.

Bulbous herb with green spathe. Jalkala, 2750 m. June 1984 (4851).

CYPERACEAE

Carex breviculmis R. Br.

Grass with brown spikes Kharsoli, 2800 m. June 1984 (1028).

C. filicina Nees

Syn. *C. meiogyna* Nees

Grass with reddish-brown spikelets. Chauki, 3800 m. Sept. 1985 (1218).

C. inanis Kunth

Grass with dark brown-green spikes. Bhumka, 3800 m. June 1984 (1018).

C. nivalis Boott.

Grass with yellow or pale brown spikes. Chauki, 3800 m. May 1984 (1217).

C. nubigena D. Don

Grass with green or pale brown spikes. Bhumka, 3200 m. July 1984 (1219).

C. rostrata Stocks

Grass with green or pale brown spikes. Bhumka, 3200 m. July 1984 (5614).

C. setosa Boott.

Glabrous herb with shining brown spikes. Bhelbagi, 3100 m. Aug. 1984 (3033).

Cyperus cuspidata Kunth (Loc.-Chandrica)

Herb with reddish pale yellow spikelets. Kharsoli, 2900 m. Sept. 1985 (3032).

C. sanguinolentus Vahl.

Rhizomatous herb with purplish spikelets. Bhelbagi, 3100 m. July 1984 (767).

Fimbristylis dichotoma (Linn.) Vahl

Syn. *Scirpus dichotomus* Linn.

Herb with brownish red spikelets. Gangi, 2500 m. July 1984 (3055).

Kobresia nitens Clarke

Grass with greenish spikes. Bhelbagi, 3100 m. June 1984 (3045).

POACEAE

Agrostis canina Linn.

Grass with purple green panicles. Gangi, 2500 m. Oct. 1985 (3030).

A. pilosula Trin.

Grass with brown spikes. Kalayani, 2600 m. July 1984 (1202).

A. stolonifera Linn.

Erect grass with purplish spikelets. Kalayani 2650 m. Aug. 1984 (3036).

Andropogon tristis Nees

Tufted herb with greenish hairy spikelets. Henuri, 2750 m. Aug. 1984 (1040).

Arthraxon lancifolium (Trin.) Hochst.

Syn. *A. microphyllus* Hochst.

Grass with purplish green spikelets on rocks near hill streams. Gangi, 2500 m. Sept. 1985 (1098).

Apluda mutica Linn. (Loc.-Jatchlyu)

Grass with greenish spikelets. Gangi, 2500 m. Sept. 1985 (759).

Danthonia cachymeriana Jaub. et Spach.

Densely tufted grass with pinkish-brown spikes. Chauki, Khatling, 3600 m. Aug. 1984 (1201).

Dactylis glomerata Linn.

Herb with greenish spikelets in dense one-sided clusters on the branches on panicles. Bajloo, 3500 m. July 1984 (1206).

Deyeuxia pulchella (Griseb.) Hook. f.

Tufted grass with grey-purple spikes on open

slopes amongst boulders. Bajloo, 3500 m. Aug. 1984 (1215).

D. scabrescens (Griseb.) Munro ex Duthie

Large grass with pinkish-brown spikelets. Bhelbagi, 3100 m. Aug. 1984 (1203).

Caplipedium parviflorum (R.Br.) Stapf

Syn. *Chrysopogon parviflorum* (R.Br.) Benth
Herb with purplish spikelets. Reeh, 2100 m. Aug. 1984 (1205).

Eragrostis poaoides P. Beauv.

Syn. *E. nigra* Nees ex Steud.

Grass with black spikes. Kalayani, 2600 m. June 1984 (1212).

Festuca kashmiriana Stapf

Tufted grass with green purple tinged panicles. Birodh, 2700 m. Aug. 1984 (3043).

F. ovina Host.

Herb with pale green or purplish spikes. Bhelbagi, 3100 m. Aug. 1984 (1028).

F. valesiaca Schleich. ex Gaud.

Tufted grass with pale green spikelets. Bhelbagi, 3100 m. Aug. 1984 (3041).

Helictorichon virescens Nees ex Steud.

Large erect slender grass with green spikelets Saura, Birodh, 2800 m. Aug. 1984 (3040).

Koeleria gracilis Pers.

Syn. *K. cristata* auct. non Pers.

Tufted grass with shining green spikelets. Bhelbagi, 3100 m. Aug. 1984 (1026, 1214).

Oryzopsis munroi Stapf ex Hook. f.

Grass with greenish-purple spikes near water margins. Kharsoli, 2800 m. June 1984 (3054).

Phleum alpinum Linn.

Herb with blackish-green spikelets. Bhelbagi, 3100 m. Aug. 1984 (3056).

Poa alpina Linn.

Tufted herb with silky hairy spikes. Bhumka, 3200 m. June 1984 (3035).

P. nepalensis Wall. ex Duthie

Herb with green spikelets. Bhelbagi, 3100 m. May 1984 (3039).

P. pagophila Bore

Herb with purplish spikelets. Bhumka, 3200 m. June 1984 (3034).

Setaria viridis (Linn.) Beauv.

Herb with green purple bristles. Gangi, 2500 m. July 1984 (1211).

Sporobolus fertilis (Steud.) Clayton

Syn. *S. indicus* auct. Linn.

Herb with purplish-green narrow panicle. Bhelbagi, 3100 m. Aug. 1984 (1207).

Trisetum aeneum (Hook. f.) Stewart

Grass with purplish green spikes. Kharsoli, 2800 m. Aug. 1984 (1209).

T. spicatum (Linn.) Richt.

Grass with greenish spikes. Kharsoli, 2800 m. Aug. 1984 (1209)

Muhlenbergia duthiana Hack.

Herb with eroded erect silvery green spikelets. Kharsoli, 2800 m. Aug. 1984 (796).

The little known taxa recorded in the present work are *Carex rostrata* Stocks, and *Sorbus lanata* (Don) S. Schaur. *Carex rostrata* was collected from an elevation of 3200 m. and *Sorbus lanata* was collected in between 2600-2900 m. elevation range.

As expected, the vegetation and the flora of the region are subjected to several natural calamities, such as land slides, soil erosion and forest fires. However, more harmful changes are brought about by human activities. Shepherds (Gaddis, Gujars, Gangwals) invade the high altitude zones in the month of April to bring their flocks of sheep for grazing till late October, as a result adversely affecting the environment. Moreover, numerous high altitude medicinal plants e.g., *Aconitum heterophyllum*, *A. balfourii*, *Actaea spicata*, *Bergenia*

stracheyi, *Diospyrum cantoniensis*, *Rhododendron lepidotum*, *Rheum emodi*, *Orchis latifolia*, *Skimmia laureola*, *Nardostachys grandiflora*, *Jurinea macrocephala*; Barks of *Cinnamomum tamala*, *Myrica esculenta*, *Berberis asiatica*, *B. aristata*, *Taxus wallichiana*; whole plants of *Meconopsis aculeata*, *Plantago himalayana*, *P. major*, *Swertia cordata*, *S. ciliata*, *Syringa emodi* are collected without understanding future prospects. Nevertheless, the region serves as reservoir for numerous valuable economic plants, many of which are known to be endangered or threatened.

Besides the above, wanton felling of forests, clearing of forests for cultivation, deforestation for firewood, tapping of resin, and minor hydro-electric projects, forest fires etc. are causing havoc to the natural vegetation and making many areas barren leading to soil erosion, floods, land slides, drought and other natural calamities (cloud bursts etc.), ultimately bringing a serious disharmony in the lower valleys of Khatling Glacier. In the near future such type of activities will create a serious problem for the Himalaya as well as for the country.

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